E Metric Conversion Information

Metric Conversion Information (SI Metric)

SI Metric stands for "Le Systeme International d'Unites", which means "The International System of Units". The metric system is a decimal-based system, a system in which units are related to each other in factors of tens. Our money system is a decimal-based system. A penny is one-hundredth of a dollar.

The following metric units will be used by pavement marking crews:

Meters (m) – A meter is approximately the length of an outstretched arm from the fingertips to the shoulder of the other arm.

Kilometers (km) – The prefix "kilo" means one thousand. A kilometer is one thousand meters.

Millimeter (mm) – The prefix "milli" means divided by one thousand. A millimeter is one thousandth of a meter.

Centimeter (cm) – The centimeter is the measurement of length that is one hundredth of a meter.

Example: 0.001 kilometer = 1 meter = 100 centimeters = 1000 millimeters

Kilogram (kg) – The metric unit for measuring mass.

Liter (L or l) – The metric unit for measuring fluid volume.

Degrees Celsius – The temperature scale in the Celsius system is determined as follows: The temperature at which water freezes is marked at 0 degrees Celsius. The temperature at which water boils is 100 degrees Celsius. The difference between these two points is divided into 100 equal parts. On a Fahrenheit scale, water freezes at 32 degrees and boils at 212 degrees.

Micron – The prefix "micron" means divided by one million. A micron is one millionth of a meter.

Try estimating measures and dimensions directly in SI units. Even if your estimates are not correct, continue trying. With every estimate you will be a step closer to "thinking metric".

Converting English to Metric Units

Multiply	By Conversion Factor	To Obtain
Mils	0.0254	Millimeters
Inches	25.4	Millimeters
Inches	2.54	Centimeters
Feet	0.3048	Meters
Yards	0.9144	Meters
Miles	1.6093	Kilometers
Pounds	0.4536	Kilograms
Gallons	3.785	Liters
Square Feet	0.0929	Square Meters
Inches	0.00003937	Microns

Degrees C = 5/9 (F-32)

Converting Metric to English Units

Multiply	By Conversion Factor	To Obtain
Millimeters	39.37	Mils
Millimeters	0.03937	Inches
Centimeters	0.3937	Inches
Meters	3.2808	Feet
Meters	1.0936	Yards
Kilometers	0.6214	Miles
Kilograms	2.2046	Pounds
Liters	0.264	Gallons
Square Meters	10.76	Square Feet
Microns	25,400	Inches

Degrees F = (9/5 x C) + 32

Example Problem: How many meters are there in 2.5 yards?

2.50 x 0.9144 = 2.286 meters

PRACTICE PROBLEMS

1) If 50 gallons of yellow traffic paint are loaded on the truck, how many liters will this equal?

2) 950 linear feet of traffic tape was placed starting at Station 1528+00, how many meters were placed?

3) Convert the following to metric:

    a. 12 lbs. yellow thermoplastic
    b. 120 yards of tape

4) A contract calls for 25,250 linear feet of tape. How many meters is this?

5) Convert the following to English units:

    a. 0.34 kilograms of reflective beads
    b. 600 millimeters of stop line marking

6) The surface temperature at time of application of thermoplastic must be 10 degrees Celsius and rising. What is this in degrees Fahrenheit?